Connect2 Bootloader User Guide

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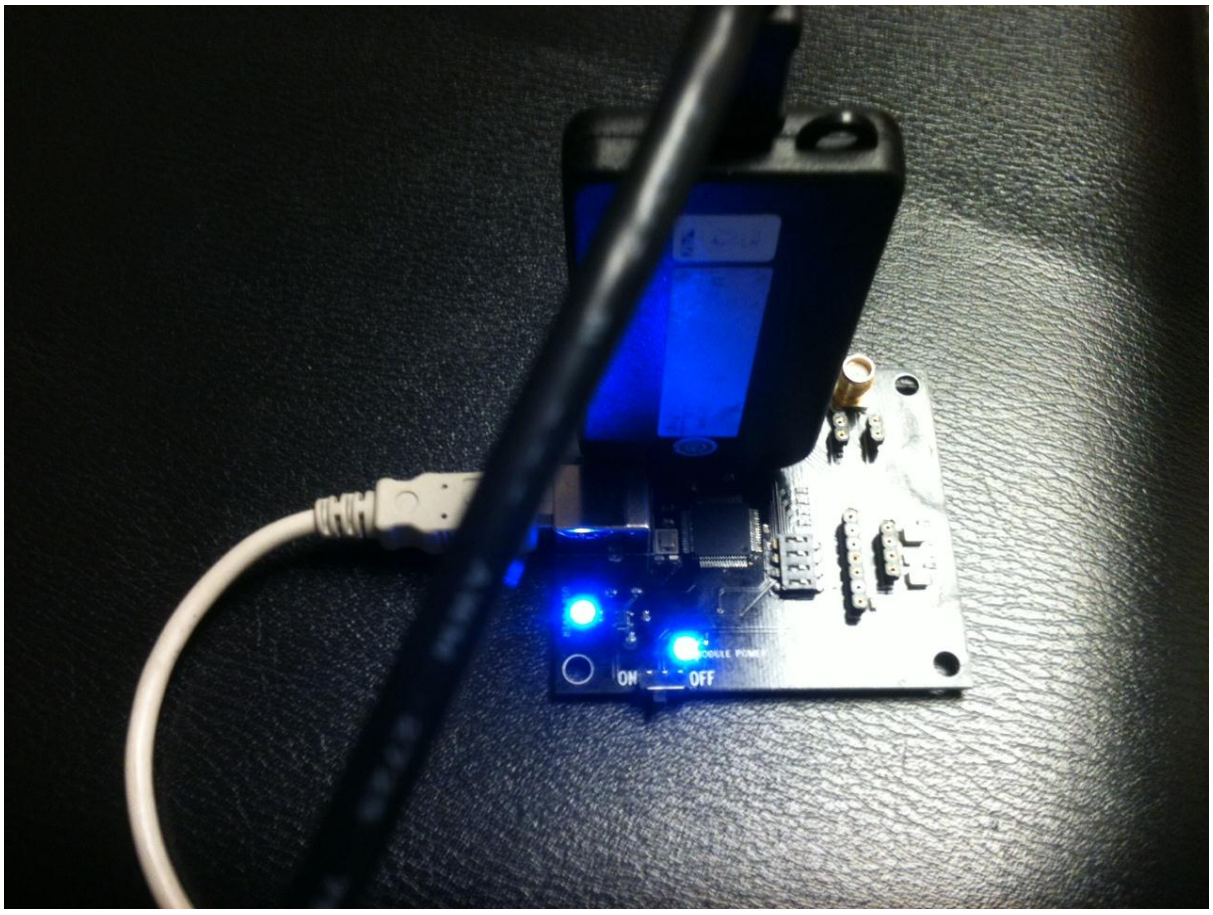
Connect2 Usb Board:

The Microchip PIC processor mounted on the LPRS Connect2-USB board contains a factory programmed bootloader allowing the device to be more conveniently programmed via the onboard USB connection.

The processor can also be programmed by connecting a PICkit (or other Microchip compatible) programmer directly to the ICSP header pins as shown below.



Picture1: Connect2-USB with PICkit Programmer

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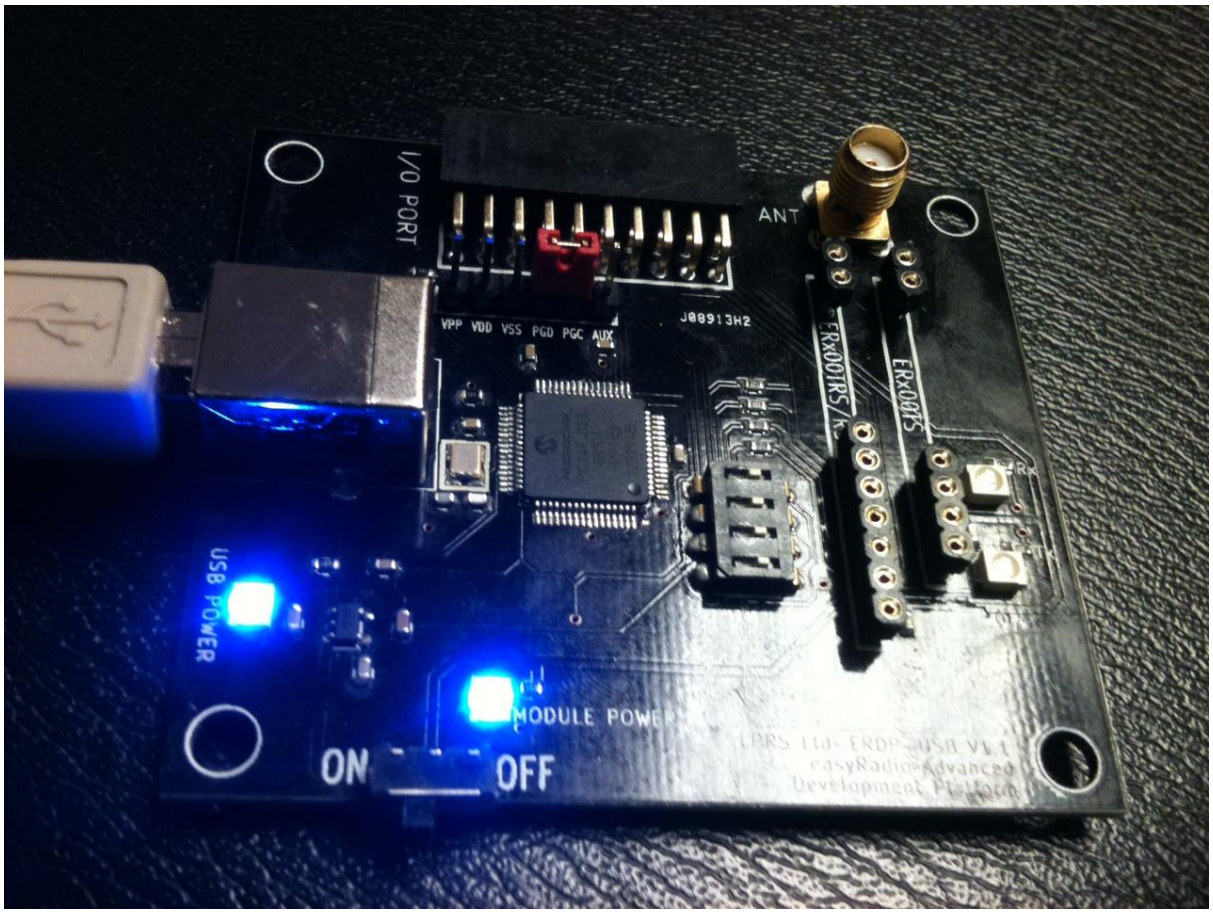

Picture2: Bootloader Jumper Placement

To enable the bootloader, remove power and bridge the PGD and PGC pins with the supplied jumper (as shown above). On power up the green (Rx) and red (Tx) LEDs flash three times indicating entry into bootloader mode

Using the microchip C30 compiler linker script and software (supplied on http://www.lprs.co.uk) any program hex file can now be 'flashed' into the processor.

To exit bootloader mode and 'run' the flashed program, remove the jumper bridging the PGD and PGC pins. The green and red LEDs should then once again flash three times indicating exit from bootloader mode and the application should then run.

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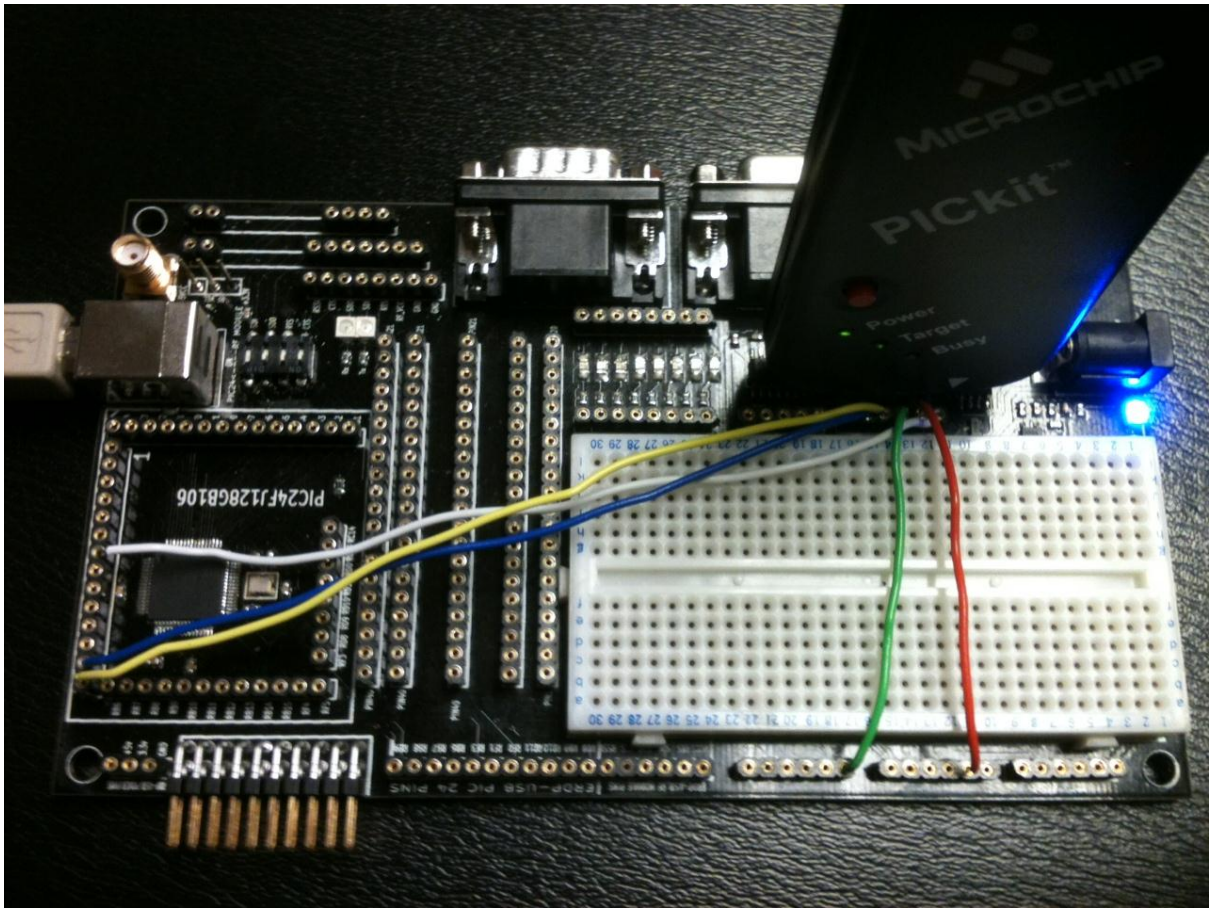
Connect2 Dev Board:

The processor on the Connect2 DEV board can also be programmed by connecting a PICkit (or other Microchip compatible) programmer to the header pins and connecting them as shown below



Picture3: Connect2 DEV with PICkit Programmer

The connections between PICkit and PIC micro-controller are as shown below:

PICKIT PIN Header	PIC 24FJ128GB106 Pins
AUXILARY	NOT CONNECTED
PGC	RB1(PIN15)
PGD	RB0(PIN16)
VSS	Ground (Use Ground socket pins)
VDD	+3.3 V (Use 3.3V socket Pins)
VPP	MCLR(PIN7)

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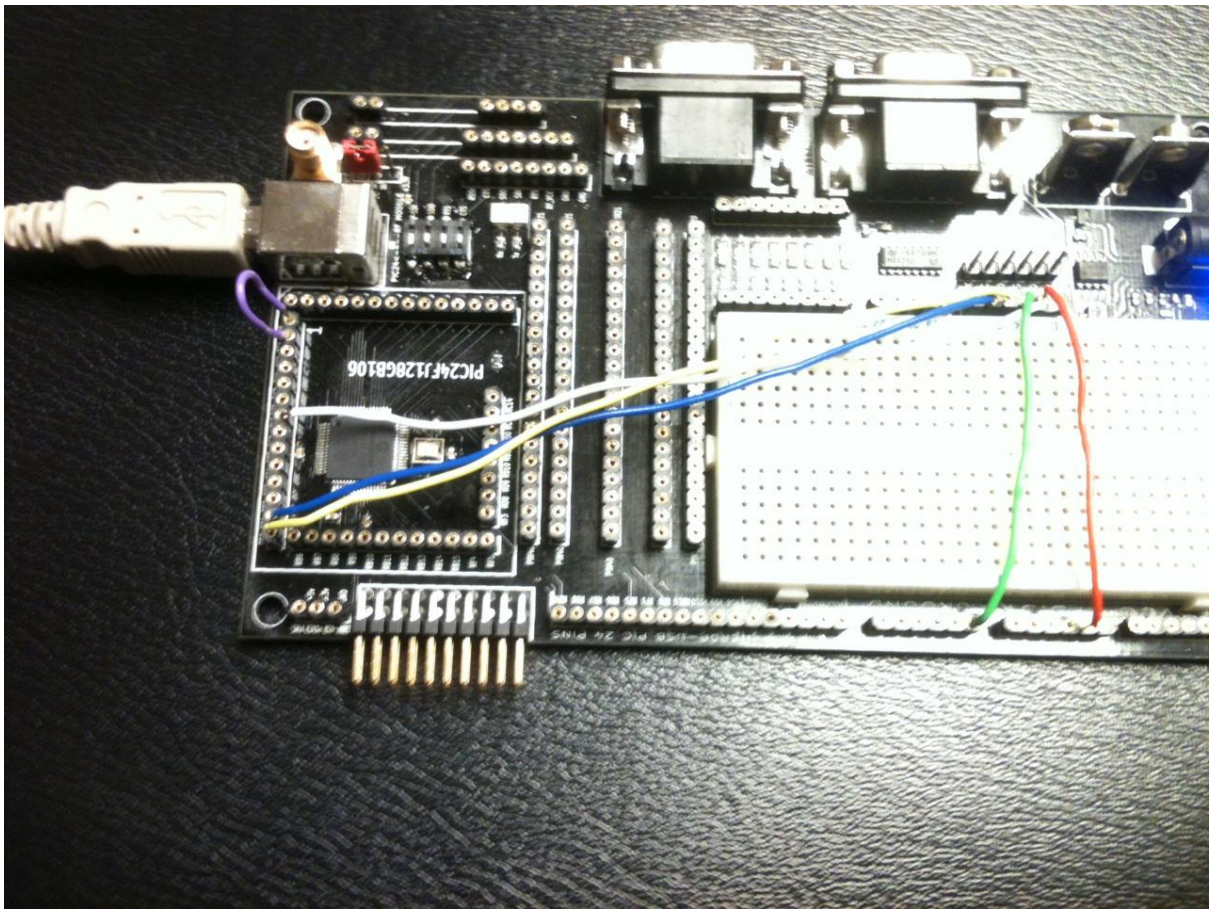

Picture4: Bootloader Jumper Placement

To enable the bootloader, remove power and interconnect pins RE5 and RE6 using a wire jumper (violet) (as shown above). On power up the green (Rx) and red (Tx) LED flash three times indicating entry into bootloader mode

Using the linker script and software (supplied on http://www.lprs.co.uk) any program hex file can now be 'flashed' into the processor.

To exit bootloader mode and 'run' the flashed progam, remove the wire connecting pins RE5 and RE6 pins. The green and red LEDs should then once again flash three times indicating exit from bootloader mode and the application should then run.

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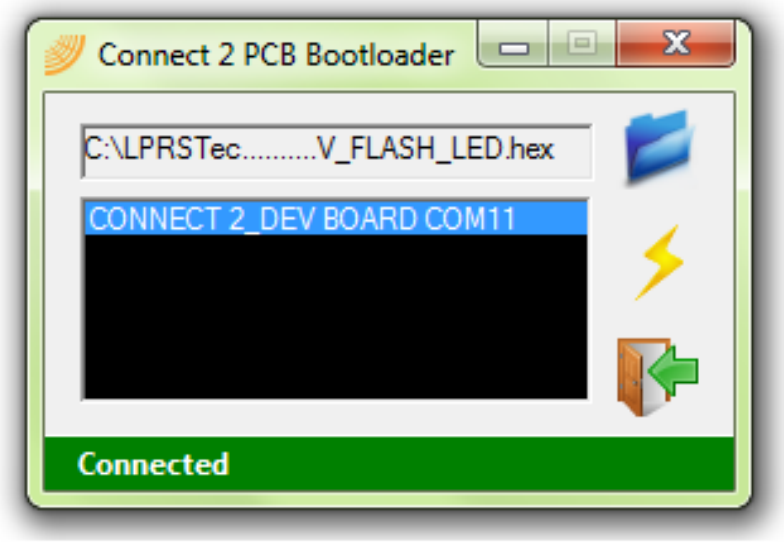
The PC software application:

The bootloader application program can be downloaded from LPRS website (www.lprs.co.uk). After installing, run the application and this will detect Connect2 boards connected via USB (WHEN THE BOARD IS IN BOOTLOADER MODE AS INSTRUCTED ABOVE).

1. Select the board from the list (The green LED will light up on the PCB)
2. Load the hex file (program)
3. Press the 'flash' button to program the micro-controller. The flash button will not be highlighted or enabled until the board is selected and the hex file is chosen.
4. The program will complete and the board can now be disconnected, or the jumper/link removed.



Picture5: Screen Shot of PC Bootloader Application

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